Professor Macdougall was appointed as a Consultant Nephrologist at King's College Hospital in London, UK in January 1996, and received his academic promotion to Professor of Clinical Nephrology through King's College London in March 2011.

His sub-specialty interest is the anemia associated with chronic kidney disease, for which he is internationally renowned. He was previously the R&D Lead for the Renal Department at King's, as well as the South London Renal CLRN lead for the UK NIHR network, and received an NIHR Senior Investigator award for research excellence in 2017.

With his research team, he has led or conducted several key multicenter clinical trials, which have shaped the management of renal anemia worldwide, including CREATE, TREAT, FIND-CKD, and PIVOTAL. He has had frequent invitations to lecture both nationally and internationally, and was part of the Work Group for KDIGO in creating the latest clinical practice guideline for the management of anemia in chronic kidney disease.